



# MER1002FCT

## Super Fast Recovery Rectifier

**Voltage** 200 V **Current** 10 A

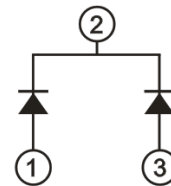
### Features

- Superfast recovery times-epitaxial construction
- Low forward voltage, high current capability
- Low leakage
- Plastic package has Underwriters Laboratory Flammability Classification 94V-O
- Lead free in compliance with EU RoHS 2.0
- Green molding compound as per IEC 61249 standard

### Mechanical Data

- Case : ITO-220AB Package
- Terminals : Solderable per MIL-STD-750, Method 2026
- Approx. Weight : 1.6 grams

ITO-220AB



## Maximum Ratings and Thermal Characteristics (T<sub>A</sub> = 25 °C unless otherwise noted)

PARAMETER		SYMBOL	LIMIT	UNITS
Maximum Repetitive Peak Reverse Voltage		V <sub>RRM</sub>	200	V
Maximum RMS Voltage		V <sub>RMS</sub>	140	V
Maximum DC Blocking Voltage		V <sub>DC</sub>	200	V
Maximum Average Forward Current	per device	I <sub>F(AV)</sub>	10	A
	per diode		5	
Peak Forward Surge Current : 8.3 ms Single Half Sine-Wave Superimposed On Rated Load Per Diode		I <sub>FSM</sub>	100	A
Typical Junction Capacitance Measured at 1 MHz And Applied V <sub>R</sub> = 4 V		C <sub>J</sub>	51	pF
Typical Thermal Resistance	(Note 1)	R <sub>θJC</sub>	6	°C/W
	(Note 1)	R <sub>θJL</sub>	6.5	
Operating Junction Temperature Range		T <sub>J</sub>	-55~175	°C
Storage Temperature Range		T <sub>STG</sub>	-55~175	°C



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## Electrical Characteristics ( $T_A = 25^\circ\text{C}$ unless otherwise noted)

PARAMETER	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNITS
Forward Voltage Per Diode	$V_F$	$I_F = 1\text{ A}, T_J = 25^\circ\text{C}$	-	0.76	-	V
		$I_F = 3\text{ A}, T_J = 25^\circ\text{C}$	-	0.85	-	V
		$I_F = 5\text{ A}, T_J = 25^\circ\text{C}$	-	-	0.95	V
		$I_F = 1\text{ A}, T_J = 125^\circ\text{C}$	-	0.61	-	V
		$I_F = 3\text{ A}, T_J = 125^\circ\text{C}$	-	0.72	-	V
		$I_F = 5\text{ A}, T_J = 125^\circ\text{C}$	-	0.79	-	V
Reverse Current Per Diode	$I_R$	$V_R = 160\text{ V}, T_J = 25^\circ\text{C}$	-	0.004	-	uA
		$V_R = 200\text{ V}, T_J = 25^\circ\text{C}$	-	-	1	
		$V_R = 200\text{ V}, T_J = 125^\circ\text{C}$	-	-	60	
Reverse Recovery Time	$T_{RR}$	$I_F = 0.5\text{ A}, I_R = 1\text{ A},$ $I_{RR} = 0.25\text{ A}, T_J = 25^\circ\text{C}$	-	-	35	ns
Reverse Recovery Time	$T_{RR}$	$I_F = 5\text{ A}, V_R = 200\text{ V}$ $di/dt = 300\text{ A/uS}$	-	25	-	ns
Peak Recovery Current	$I_{RRM}$		-	5.7	-	A
Reverse Recovery Charge	$Q_{RR}$	$T_J = 25^\circ\text{C}$	-	74	-	nC
Reverse Recovery Time	$T_{RR}$	$I_F = 5\text{ A}, V_R = 200\text{ V}$ $di/dt = 300\text{ A/uS}$	-	37	-	ns
Peak Recovery Current	$I_{RRM}$		-	8.7	-	A
Reverse Recovery Charge	$Q_{RR}$		$T_J = 125^\circ\text{C}$	-	162	-

NOTES :

1. Device mounted on a infinite heatsink.



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## TYPICAL CHARACTERISTIC CURVES

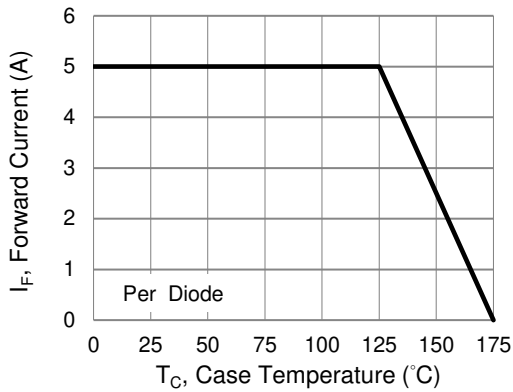


Fig.1 Forward Current Derating Curve

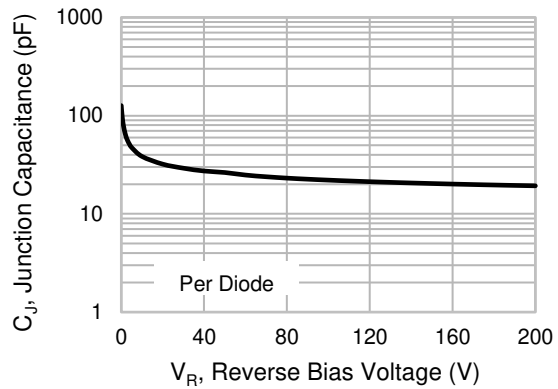


Fig.2 Typical Junction Capacitance

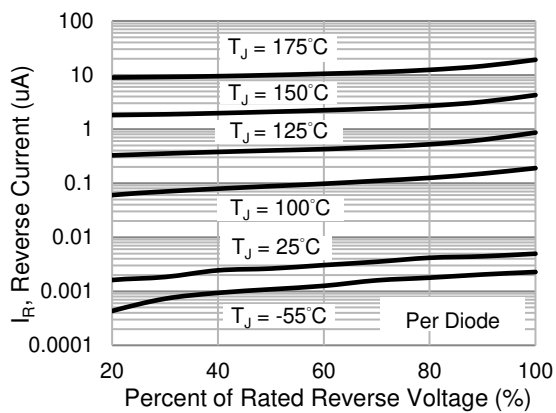


Fig.3 Typical Reverse Characteristics

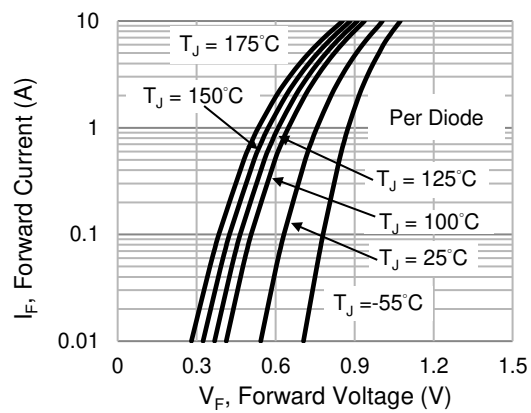


Fig.4 Typical Forward Characteristics

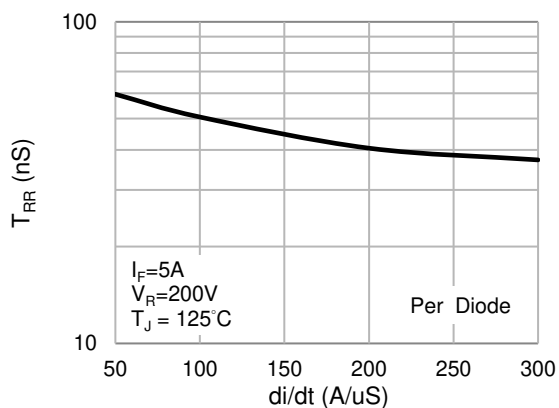


Fig. 5 Typical Reverse Recovery Time Versus di/dt

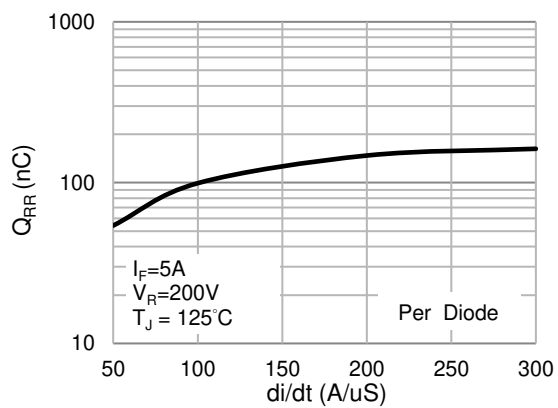


Fig. 6 Typical Reverse Recovery Charge Versus di/dt

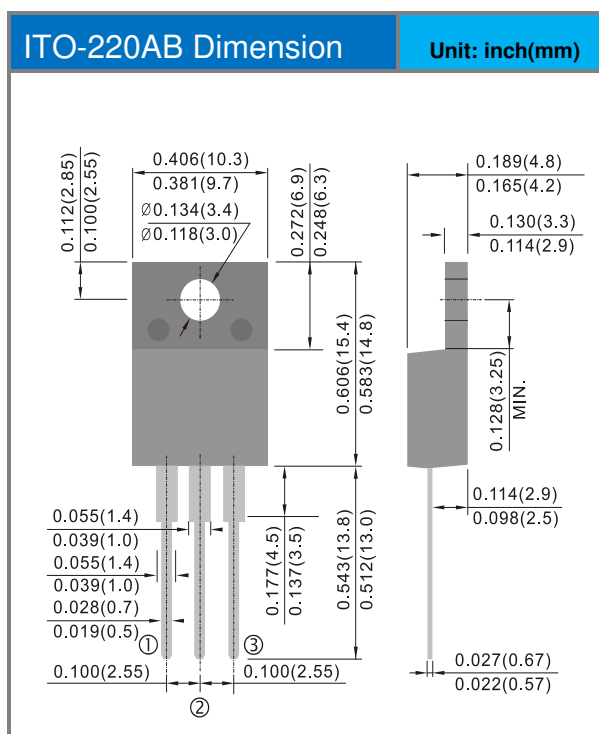


# MER1002FCT

Part No. Packing Code Version

Part No. Packing Code	Package Type	Packing Type	Marking	Version
MER1002FCT_T0_00601	ITO-220AB	50pcs / Tube	MER1002FCT	Halogen free RoHS compliant

## Packaging Information





## **MER1002FCT**

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